

USAID Evaluation Highlight No. 28
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Protecting Biological Diversity in Thailand

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Summary

USAID support for biological diversity in Thailand has focused on combining community development with conservation practices to help villagers find alternative sources of livelihood to hunting, farming, and wood cutting in neighboring forest parks and protected habitats. This approach represents a departure from the traditional method of policing protected forest parks with armed guards, a method that has had limited effectiveness.

USAID's experience in Thailand suggests that community development and conservation programs can help halt forest habitat encroachment. But the task requires a sustained commitment by trained field staff for over a decade. Moreover, efforts also must be directed at other forces, such as land speculation and government bias in provision of social services, that can undermine community development and conservation programs.

This highlights is based on a field evaluation of one community development and conservation program in Thailand. It is part of the Center for Development Information and Evaluation's (CDIE) global assessment of USAID-supported biological diversity protection programs. Other countries in the assessment are Costa Rica, Jamaica, Madagascar, Nepal, and Sri Lanka.

Background

As in many developing countries, Thailand has gradually lost most of its tropical forests and many of its plant and animal species to logging, agriculture, and hunting. Forestry and wildlife specialists argue that the country can no longer afford to convert forests to such uses. Open forest land for agricultural settlement in Thailand is gone.

Nevertheless, Thailand's population and economic growth continue to exert pressure on virtually all land in the country. With most lowland areas taken up for irrigated agriculture and urban settlement, wildlife have been forced to retreat to remaining hilly upland areas, which are also becoming deforested.

In 1961, when Thailand initiated a program to protect forest habitats and wildlife, forests covered about 50 percent of the country's land area. By 1990 forested lands had declined to half

that. During the same period Thailand increased the amount of forest and marine areas under parks and protected schemes with significant results. Today nearly 15 percent of the country's total land area is made up of parks, sanctuaries, and reserves (see Figure 1).

Despite this respectable record, Thai public agencies have not been able to keep pace with the demands for creating and managing new areas for remaining and displaced wildlife. Policing park boundaries has been the Government's chief strategy for dealing with habitat destruction. But with limited budgets and staff and nearly 100 wildlife parks and sanctuaries to protect, park staff have been overwhelmed in their efforts to curtail park encroachment by inhabitants of nearby villages.

Many of these villages are in remote areas, far from Thailand's economic centers. Their members have had limited access to the benefits of Thailand's recent impressive economic development. The villagers' relative poverty has compelled them to turn to forests as sources of land for cultivation, wood for fuel and construction, and wildlife for consumption and sale.

One unique forest ecosystem where the problems of encroachment have been especially severe is Khao Yai National Park, one of Thailand's oldest and largest national parks. Khao Yai, located only 3 hours from central Bangkok, serves as a popular recreational attraction for Thai and foreign tourists. Of nearly 1 million yearly visitors to the country's national parks, an estimated 400,000 visit Khao Yai Park.

Although Khao Yai is a protected area well known in Thailand, it continues to lose forest habitats along its borders with rural communities. Villagers encroach into the park regularly, and efforts by the Thai National Parks and Wildlife Conservation Divisions of the Royal Forest Department (RFD) have been only partially and sporadically effective at preventing it.

USAID's Assistance Approach

Since the mid-1980s, USAID has been supporting the Wildlife Fund of Thailand (WFT) an environmental NGO and affiliate of the World Wildlife Fund to help Thailand pioneer community development and conservation projects designed to curb encroachment into protected areas. One such effort was launched in August 1987 with a \$209,000 grant from USAID and \$93,000 of WFT funding. In 47 villages bordering Khao Yai National Park, WFT set up and carried out a program to increase environmental knowledge and awareness among villagers and, in 10 of those villages, to introduce alternative sources of livelihood to exploiting the forest and wildlife resources of the park.

WFT selected 10 villages whose members were known to regularly encroach on the park. Many households from these villages resented park officials, whom they held responsible for displacing them from the lands that now make up the park. Moreover, their isolation from roads and communication denied them access to basic government

services, such as health, education, agricultural credit, and extension, further adding to their marginalization.

Given this context, WFT had to rely on villagers themselves to spread conservation awareness and knowledge within their communities. It pursued this goal by organizing conservation interest groups called Environment Protection Societies (EPS), whose members were recruited through community organization meetings, environmental fairs, other local events, contests, and the like.

WFT staff coordinated and helped conduct conservation awareness and training activities, operated tree nurseries, and coached the management and activities of the village societies. WFT selected its field staff from among recent college graduates living in surrounding areas and trained them in organizational skills and community development techniques. The field staff in turn selected local village leaders from among the participating EPS members and gave them leadership training.

Although the novelty of EPS activities was enough to attract some members particularly in villages with little previous exposure to community action and organization WFT recognized the need to make EPS activities relevant to everyday livelihood concerns to attract and maintain membership. Surveys of village households indicated a cycle of indebtedness and poverty that compelled villagers to use the resources of the park for survival. WFT proposed setting up a loan fund for villagers, but to qualify, villagers had to become members of the village EPS, demonstrate awareness of park regulations, commit to discontinuing park encroachment, and follow environmentally sound agricultural practices.

USAID's support for WFT ended in 1991, but the Agency continues to fund biodiversity conservation in Thailand through its Management of Natural Resources (MANRES) project. The 5-year, \$25 million project, which began in 1990, aims to correct basic market and policy distortions in the Thai national economy in order to address environmental problems in several sectors forestry, coastal, marine, urban, and industrial. MANRES also focuses on strengthening Thai Government environmental institutions through partnerships with U.S. organizations. Currently, for example, MANRES is brokering a joint venture between U.S. firms and the Thai Government to promote community-managed forests on lands bordering Khao Yai National Park.

Findings

Program Impact

Nearly 3 years after USAID funding has ended, moderate-size village conservation groups continue to operate, but only where outside support and direction exist. In 7 of the 10 villages, EPS activities continued at relatively high levels, with memberships at or above one-third of village households, although rates of participation varied significantly among villages. The most common reason villagers gave for participating in the village societies

was the opportunity to obtain credit for crop production. Household participation was highest in villages where indebtedness to moneylenders was traditionally high and in those EPS groups where local leaders were given a strong role in deciding program activities.

The WFT program introduced villagers to new farming practices and rural enterprises as alternative sources of livelihood. Demonstrating new practices and techniques for earning a livelihood quickly became the program's principal and most popular activity. During the 3 years of implementation, program staff helped introduce such new techniques and practices as raising livestock and silkworms, cultivating fruit trees and mushrooms, using a rice seed bank, and farming fish ponds. However, because WFT staff had been trained as conservationists rather than as agriculturalists, they had little technical training in any field of agriculture. Some had made commendable strides learning local agricultural practices from the farmers they had helped. Others brought with them basic farming skills from limited formal and informal training. To compensate, program staff played the role of agriculture service broker between villagers and government agents helping build bridges of communication that could survive after WFT staff moved on.

The availability of loans was an important, though management-intensive, incentive for villagers to join the societies and to stop encroaching into the park. From the start, the management of lending activities was time consuming for the small field staff who had to administer several hundred small loans, most of which were only \$80 to \$200 each. Borrowers told USAID evaluators that they would have preferred larger and longer term loans for fruit tree orchards and cattle fattening, which would also have eased the lending management load on program staff. When field staff could no longer manage the growing credit program, WFT persuaded a Thai bank branch to keep track of borrowers' accounts. This change released the staff for other community development activities and involved an outside institution, a commercial bank, in supporting local EPS members directly. Some villagers, without coaching from program staff, have since gone directly to commercial banks, avoiding moneylenders altogether.

The program has helped bridge gaps between government agencies and the people they are intended to serve. The program received no funding support from government agencies involved in the protection of the forest habitats of Khao Yai National Park. In fact, a major constraint of the program was the limited Thai Government presence in villages bordering the park. This resulted largely from the unofficial status of villagers, who in many cases had cleared and cultivated open public lands. Thai government agencies were reluctant to provide schooling, health clinics, farm production credit, and agricultural extension services that could encourage further settlement on public lands bordering the park.

At the same time, the Thai Royal Forest Department (RFD) was responsible for forest lands only up to the border of the park and had no authority to work with neighboring communities. Because WFT

had no such bureaucratic or legal constraints, it was free to work with villagers. One result of WFT activities was to draw other government agencies and private businesses into serving villages. WFT helped arrange provincial agricultural and health officers' visits to participating villages. WFT conservation materials became part of classroom materials for local schools.

The program achieved rapid, noticeable increases in the villagers' knowledge and understanding of forest conservation, even among villagers with low levels of income and literacy. During the 3 years of USAID grant funding, program staff set up and carried out mobile education programs in nearly 50 villages around Khao Yai Park. Education activities included special education programs for school children, environmental fairs, speeches by park officials, and talks by program staff. WFT also drew on local teachers and monks to deliver its environmental messages. WFT found that Buddhist monks, revered for their respect of nature, were particularly well-received messengers among villagers. As a result the program has promoted the participation of monks as environmental educators in park border areas elsewhere in the country.

WFT success at educating the community about environmental problems and their solutions has led to some promising changes within public agencies. Recently the Khao Yai National Park headquarters began to conduct its own program to educate rural people about the importance of conserving protected areas, and the RFD's Wildlife Conservation Department has established nature education centers. The community development and conservation program has helped Thai environmental NGOs strengthen their capacity to carry out viable strategies for forest habitat protection. USAID supported WFT's early efforts to combine community development and wildlife conservation, a departure from traditional nature education campaigns. The experience helped sharpen the rigor and heighten the resolve with which NGOs pursued community development and conservation activities. WFT's increased capacity is evident in its ability to continue activities after USAID funding ended. WFT was formally registered with the Thai Government in 1985 and has succeeded annually in raising local contributions and securing international funding to expand and carry on its work.

The program increased public awareness of the importance of buffer zone community development and conservation activities as components of forest habitat protection, but this awareness has only begun to influence government policies and programs. There is only a hint of interest within official Thai circles for pursuing community conservation and development activities. However, interest may grow with the release of the National Forestry Master Plan, the first of its kind in Thailand. Developed with support from the World Bank and several European donor countries, the plan stresses that people are the most serious threat to the country's natural resources, but also a fundamental element in any scheme for sustainable forest management. Thai government policymakers are exploring new ways of involving local villagers directly in the management of protected forest habitats in or around which they live. The WFT experience working with village groups can

provide useful guidance.

Illegal logging, hunting, and farming declined around all villages where program activities were carried out. There are fewer reports of park encroachment from villages in program areas; rangers report hearing fewer gunshots and seeing fewer trees felled. Most villagers support measures to ban or limit hunting and crop cultivation in national parks, although people from neighboring villages and park officials assert that some illegal activities continue. Relations between villagers and park personnel have improved; Khao Yai Park officials and guards no longer fear entering neighboring villages to discuss problems and seek help. Having program staff live and work among villagers has quickened villagers' adoption of new technology. With program staff serving as informal representatives as well as technical advisers, villagers are more prepared to invest in crop systems with longer payback periods. Moreover, the program has given some villagers confidence to invest in long-term agricultural practices such as cultivating orchards. One of the more positive features of community development and conservation programs is the high profile given villagers' problems by the presence of representatives from registered environmental NGOs. This implies, however, a need for long-term commitment generally more than a decade on the part of NGOs to continue their association with village groups at least until these groups have acquired the capacity to represent themselves.

Biophysical impacts of the program are spotty, limited to a few areas where belts of community forests have been planted and illegal logging and hunting halted by active vigilance of program villagers. It is still too early to determine for certain whether forest habitats and wildlife populations are regenerating as a result of program activities. But informal park ranger counts indicate that some populations are recovering. Also reports of crop damage by park wildlife venturing into adjacent farmers' fields indicate that population increases among some species may be forcing them outside the park in search of more feeding grounds. The program helped improve local community living standards by introducing new livelihood enterprises, practices, and techniques. The most powerful tactic for reducing human pressures on the park is to draw people away from the park in pursuit of alternative income-earning work. As an incentive measure, supplanting loan-sharking activities with lower interest EPS loans has been effective in several of the program villages. Although the socioeconomic status of villages has improved and land ownership has stabilized or increased, indicators, such as increased migration rates, and villagers' comments suggest that income-generating activities of the program are only now beginning to have an impact. Since the EPS loan fund was established, fewer loans are being requested from higher interest sources and households are going directly to banks to borrow money. The cheaper loans suggest lower production costs for EPS loan users and higher net incomes.

Program Effectiveness

Targeting low-income villages around Khao Yai National Park ensured reaching households in the grips of the most serious debt and poverty. Baseline surveys of the 10 program villages found a pattern of substandard conditions across social indicators health, education, household assets, income, and employment. In exchange for their participation in EPS conservation activities, households obtained social services either from program staff or public agencies that staff helped mobilize. These services led to improved living conditions and economic opportunities in all program villages.

The program receives high marks for drawing both women and men into conservation and community development activities and for providing both with new sources of employment and income. As heads of households and as spouses, women were represented among EPS members in all program villages in proportions ranging from 40 to 60 percent of total members. Several EPS activities weaving, animal fattening, tree nurseries were particularly popular among women villagers. Women also pointed to the program's water and sanitation activities as helpful in improving their families' health and easing their own domestic tasks.

The eligibility requirements for loans inadvertently restricted landless and wage laborers, among the more prone to park encroachment, from participation. To be eligible as a borrower, villagers first had to be EPS members and second had to have land to work. Program managers initially justified the second requirement as a means of ensuring that funds would be used for alternative agricultural practices and not for consumption. However, banks were reluctant to lend to people considered itinerant cultivators who might not be around later for repayment.

Program Sustainability

Village societies established and nurtured by the WFT program have not yet acquired sufficient leadership and management skills or financial assets to continue without further assistance. Village organizations need long-term commitment from NGO or public agencies to boost their capabilities before they can conduct conservation and development activities on their own. After 7 years of activity, WFT has yet to achieve such sustainability in any of the 10 program villages. WFT is considering developing several of the 10 villages into model communities and training centers for members and leaders of future EPSs in other villages bordering Khao Yai and other national parks. Such a strategy can spread new program activities and enhance the sustainability of original program village groups. The long-run viability of wildlife habitats in Khao Yai National Park remains in doubt. Khao Yai National Park will continue as a recreational area for Thai and foreign tourists. But the survival of wildlife species within the Khao Yai habitat is less certain. Recreational activities, particularly around small parks, conflict with wildlife feeding and breeding (see Box 1). Developers' plans to build tourist resorts and golf courses adjacent to park borders are especially alarming. Tourist resorts and golf courses may appear to be ideal smokeless industries that generate jobs and foreign exchange, but they are also voracious users of chemical

herbicides and pesticides that contaminate nearby park water systems and feeding and breeding grounds.

A further concern is that growing ecotourism has spawned a new market for exotic plants, which is being supplied by plant poachers who encroach into Khao Yai and other national parks in search of tropical flora to supply this new market. Developers are paying premium prices for rare forest foliage to establish instant gardens around their private resorts and residential developments.

Pressures from land development threaten the sustainability of programs designed to end park encroachment. The program's accomplishments could also contain the seeds of its undoing. The WFT and other environmental NGOs have been so effective with green messages about the value of the country's national parks and forests that, around Khao Yai National Park at least, land developers have begun to buy up or seize by political and legal maneuvers rights to use lands bordering parks (see Box 2). One result of land speculation and development around Khao Yai has been the destabilization of some buffer zone communities as villagers begin to sell their land, often at prices too tempting to reject. Villagers who sell their land and fail to use the proceeds wisely face now economic hardships that can potentially force them back into forest encroachment for survival.

Program Replicability

The program identified several promising low-cost ways of introducing community conservation and development programs to buffer zone villagers. So far, the program has reached a few villages and villagers around Khao Yai one of nearly 100 parks and protected areas in the country. Nationally, several thousand villages face pressures that force their members into illegal logging, hunting, and farming.

The program's conservation awareness and education messages were relatively easy to communicate. The best of them can be used now in other locations at little additional cost. Local teachers and Buddhist monks can be recruited to volunteer as communicators with NGO staff. Involvement of government agencies, particularly at the provincial level where there are some resources available, is another way of spreading program activities.

WFT's community development and conservation approach has yet to be endorsed by those in Thai government circles whose support is critical for spread of the program. The Thai Government has sufficient resources to promote the spread of such activities more broadly. Thai officials indicate they are aware of WFT community conservation and development activities and are pleased with the involvement of private voluntary groups. But public endorsement and support have been limited so far. The lack of a clear delineation of responsibility among government agencies for directing such programs appears to be part of the problem. More important, the Thai Government may not be able to afford community development and conservation programs. WFT's long-term investment of skilled and motivated staff reached only 10 villages, a minuscule fraction of

the total, and had only a modest environmental impact.

More substantive government action may soon occur as a result of recent international initiatives in Thailand. The most significant of these is a large biological diversity program proposed for funding by the Global Environmental Facility (GEF). The GEF-sponsored program would extend the strategy of buffer zone development to other forest habitat areas in Thailand while supporting their continuation around the Khao Yai Park.

Lessons Learned

Environmental awareness messages are effective at increasing knowledge and changing attitudes, even in rural areas with low literacy and income levels. In the Thailand setting, surveys demonstrate a greater knowledge and understanding of the value of forest habitats and wildlife among all villagers, independent of income level or functional literacy. Environmental awareness reached 95 to 98 percent after only a year or two of activities. Awareness of forest habitat protection and conservation leads most directly to action when it is accompanied by the introduction of livelihood activities that can replace income lost from forest encroachment. Declines in forest encroachment and increases in conservation practices track closely with increased adoption of (and greater benefits received from) new livelihood activities. Thai villagers who are able to shift from moneylenders to program loans to meet their borrowing needs voice particular satisfaction with the program for helping them engage in new forms of livelihood. Among those who admit to continuing forest encroachment were many of the landless and wage laborers who had not benefited from new forms of economic activity fostered by the program. Incentive systems, such as credit programs, must be carefully designed and implemented to ensure inclusion of target participants, particularly the landless and wage earners. WFT's experience demonstrates the importance of knowing the target group and responding with incentives that will bring about desired changes. A tradeoff exists between controls to avoid abuse of program resources and efforts to include as many of the target population as possible. These tradeoffs must be identified and addressed in the management of program activities.

Community development and conservation programs near protected habitats are most easily spread and sustained when local groups and public agencies are actively involved. The management-intensive nature of community conservation and development activities requires mobilizing community organizations and local public agencies to continue without indefinite external support. Local participation and support are also critical if efforts are to be extended to other communities. Environmental NGOs appear to be effective at addressing short-term problems without government involvement. However, encroachment problems that derive from price and market distortions can seldom be addressed by NGO and local community action programs alone. Rather they require environmental NGOs to build public support for policy changes to address such distortions on a national scale.

This Evaluation Highlights was prepared by Phillip Church of the Center for Development Information and Evaluation. It summarizes the findings from the USAID Working Paper "Assessment of USAID Biological Diversity: Thailand Case Study," by Nora Berwick, Phillip Church, Benjamat Teeramatvanit, and Alberto de la Paz. The study is part of a six-country assessment, directed by Phillip Church, of USAID's biological diversity protection programs. Readers can order copies of CDIE reports from the DISC, 1611 North Kent Street, Suite 200, Arlington, VA 22209-2111, telephone (703) 351-4006; fax (703) 351-4039.